

# Video Game Ratings

## OSEMN Pipeline

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# 01

## Project Goal

Overview of key steps

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# OSEMN Pipeline



**O**btain the Data

**S**crub/Clean the Dataset

**E**xploratory Data Analysis

**M**odel the Data

**I**nterpret the Results

**FOCUS**

**EXTRA**



# 02

## Task Analysis

Dataset description and  
problem dissection

# Data Set

| Unnamed: 0 | Title                                   | Release Date | Team   | Rating | Times Listed | Number of Reviews | Genres   | Summary   | Reviews  | Plays | Playing | Backlogs | Wishlist |
|------------|---|--------------|--|--------|--------------|-------------------|--|---|--|-------|---------|----------|----------|
| 0          | Elden Ring                              | Feb 25, 2022 | ['Bandai Namco Entertainment', 'FromSoftware']     | 4.5    | 3.9K         | 3.9K              | ['Adventure', 'RPG']                               | Elden Ring is a fantasy, action and open world... | ["The first playthrough of elden ring is one o...] | 17K   | 3.8K    | 4.6K     | 4.8K     |
| 1          | Hades                                   | Dec 10, 2019 | ['Supergiant Games']                               | 4.3    | 2.9K         | 2.9K              | ['Adventure', 'Brawler', 'Indie', 'RPG']           | A rogue-lite hack and slash dungeon crawler in... | ['convinced this is a roguelike for people who...] | 21K   | 3.2K    | 6.3K     | 3.6K     |
| 2          | The Legend of Zelda: Breath of the Wild | Mar 03, 2017 | ['Nintendo', 'Nintendo EPD Production Group No...] | 4.4    | 4.3K         | 4.3K              | ['Adventure', 'RPG']                               | The Legend of Zelda: Breath of the Wild is the... | ['This game is the game (that is not CS:GO) th...] | 30K   | 2.5K    | 5K       | 2.6K     |
| 3          | Undertale                               | Sep 15, 2015 | ['tobyfox', '8-4']                                 | 4.2    | 3.5K         | 3.5K              | ['Adventure', 'Indie', 'RPG', 'Turn Based Stra...] | A small child falls into the Underground, wher... | ['soundtrack is tied for #1 with nier automata...] | 28K   | 679     | 4.9K     | 1.8K     |
| 4          | Hollow Knight                           | Feb 24, 2017 | ['Team Cherry']                                    | 4.4    | 3K           | 3K                | ['Adventure', 'Indie', 'Platform']                 | A 2D metroidvania with an emphasis on close co... | ['this games worldbuilding is incredible, with...] | 21K   | 2.4K    | 8.3K     | 2.3K     |

# Clean Data Set

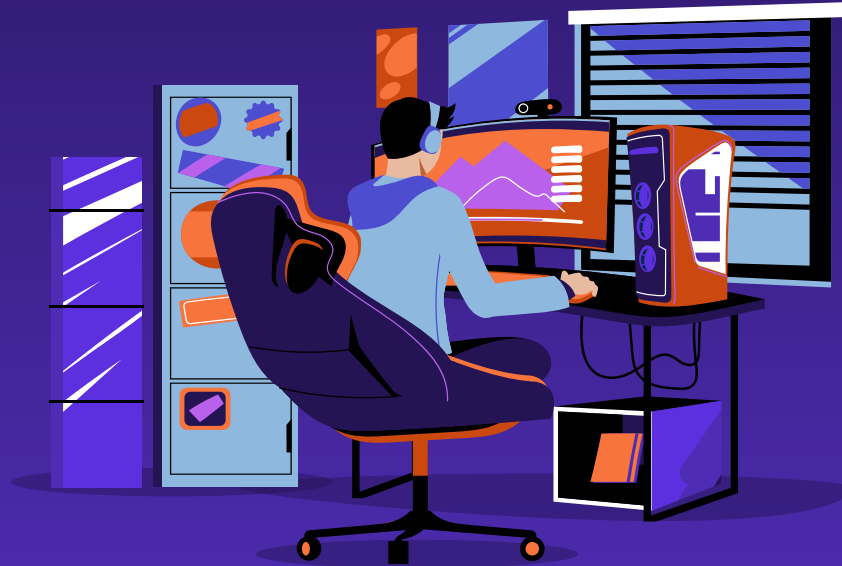
|   | Title                                   | Team  | Rating | Times Listed | Number of Reviews | Genres    | Reviews  | Plays | Playing | Backlogs | Wishlist | Season | Release Month | Release Year | Sentiment |
|---|---|---|--------|--------------|-------------------|-----------|--|-------|---------|----------|----------|--------|---------------|--------------|-----------|
| 0 | Elden Ring                              | [Bandai Namco Entertainment, FromSoftware]      | 4.5    | 3.9K         | 3900              | Adventure | ["The first playthrough of elden ring is one o...  | 17000 | 3800    | 4600     | 4800     | Winter | Feb           | 2022         | 0         |
| 1 | Hades                                   | [Supergiant Games]                              | 4.3    | 2.9K         | 2900              | Adventure | ['convinced this is a roguelike for people who...  | 21000 | 3200    | 6300     | 3600     | Winter | Dec           | 2019         | 1         |
| 2 | The Legend of Zelda: Breath of the Wild | [Nintendo, Nintendo EPD Production Group No. 3] | 4.4    | 4.3K         | 4300              | Adventure | ['This game is the game (that is not CS:GO) th...  | 30000 | 2500    | 5000     | 2600     | Spring | Mar           | 2017         | 0         |
| 3 | Undertale                               | [tobyfox, 8-4]                                  | 4.2    | 3.5K         | 3500              | Adventure | ['soundtrack is tied for #1 with nier automata...  | 28000 | 679000  | 4900     | 1800     | Fall   | Sep           | 2015         | 0         |
| 4 | Hollow Knight                           | [Team Cherry]                                   | 4.4    | 3K           | 3000              | Adventure | ['"this games worldbuilding is incredible, with... | 21000 | 2400    | 8300     | 2300     | Winter | Feb           | 2017         | 1         |

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# 03

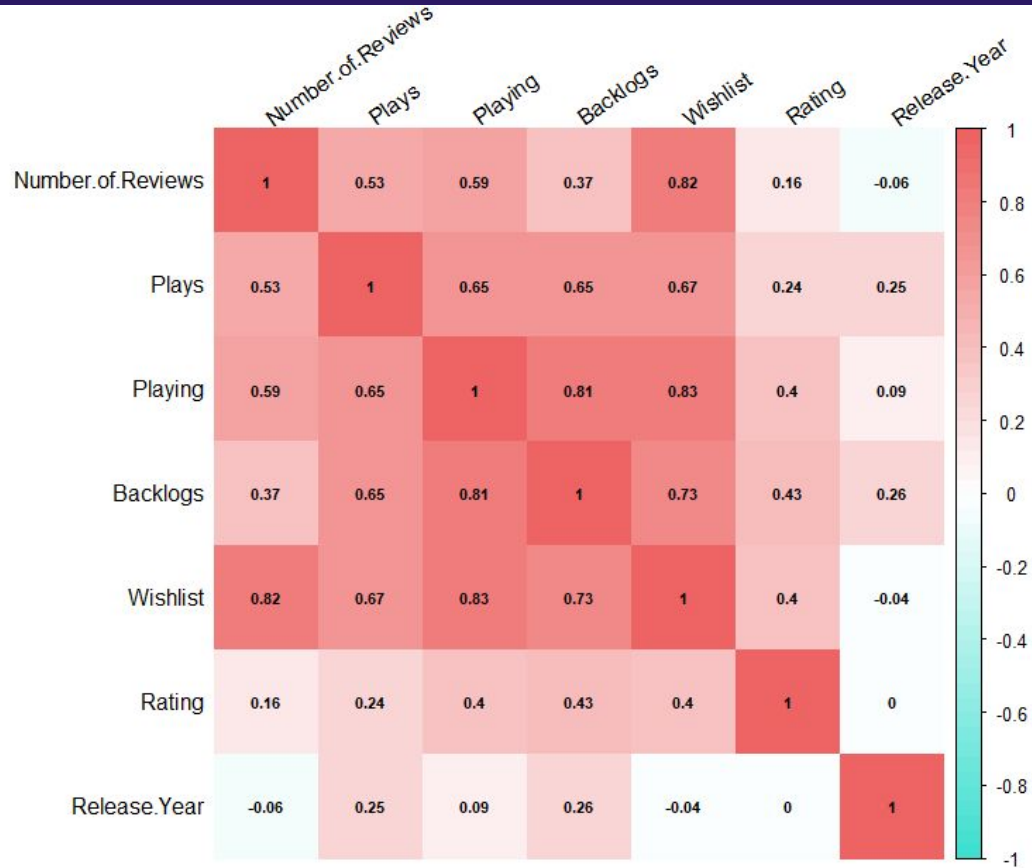
## Visualization

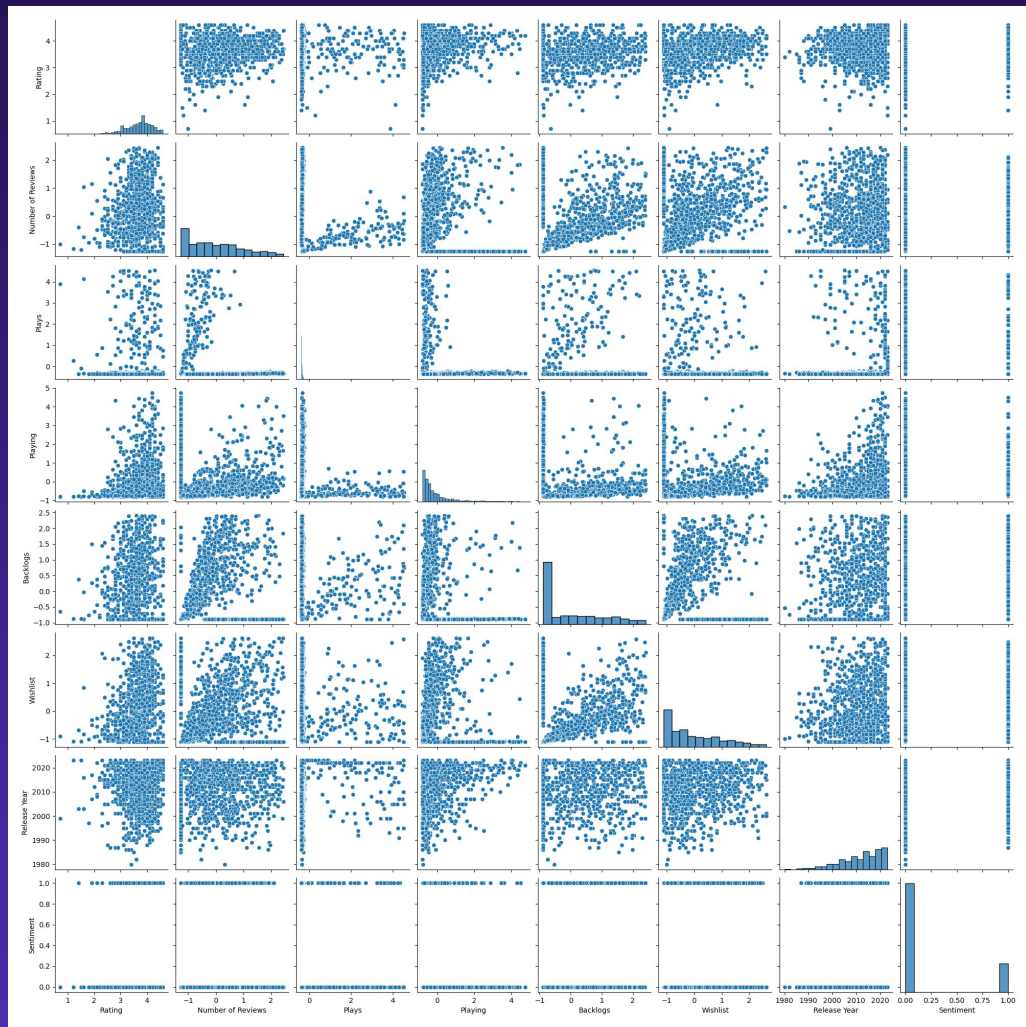
Graphs and matrices





# Pearson Correlation Heat Map

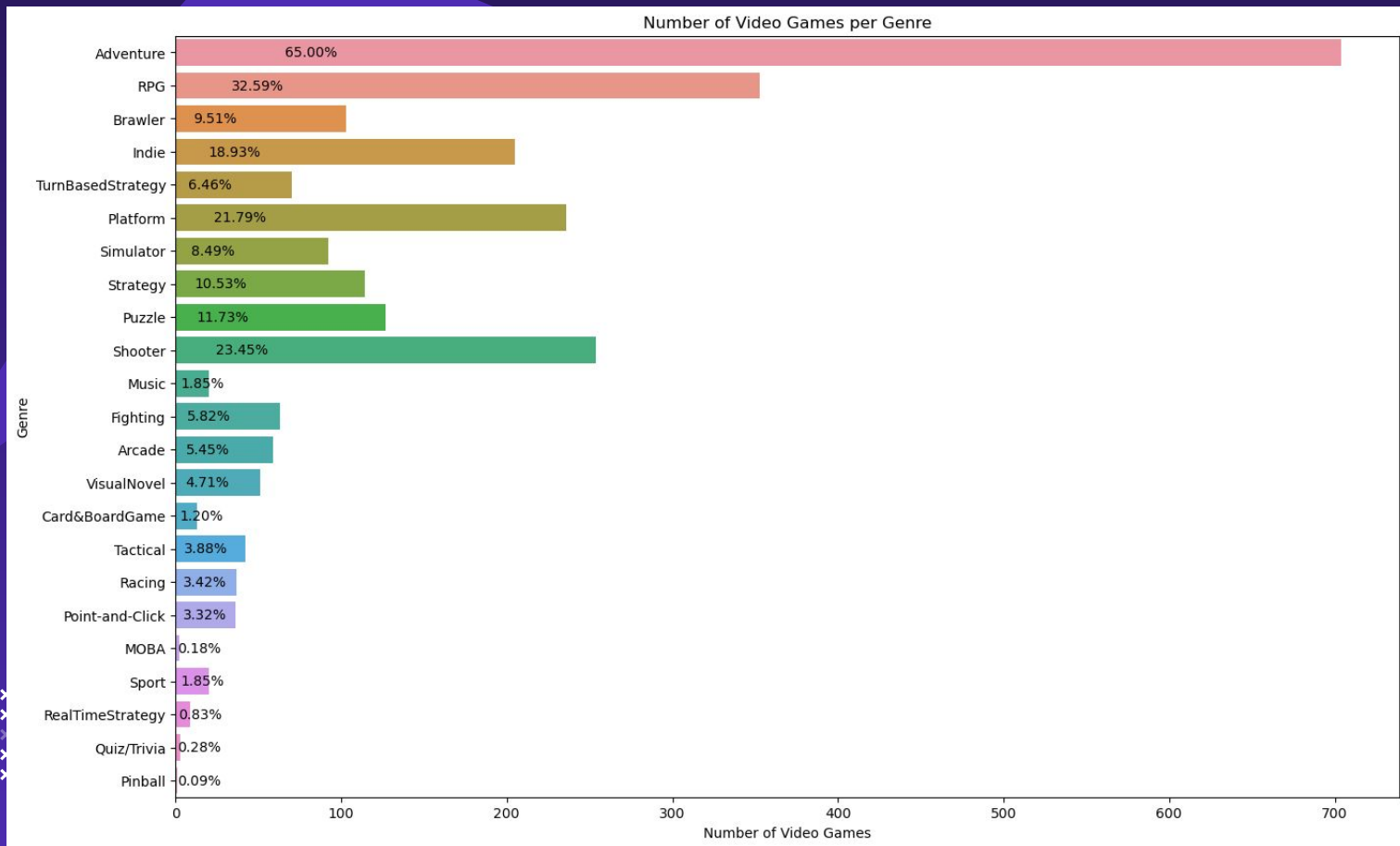




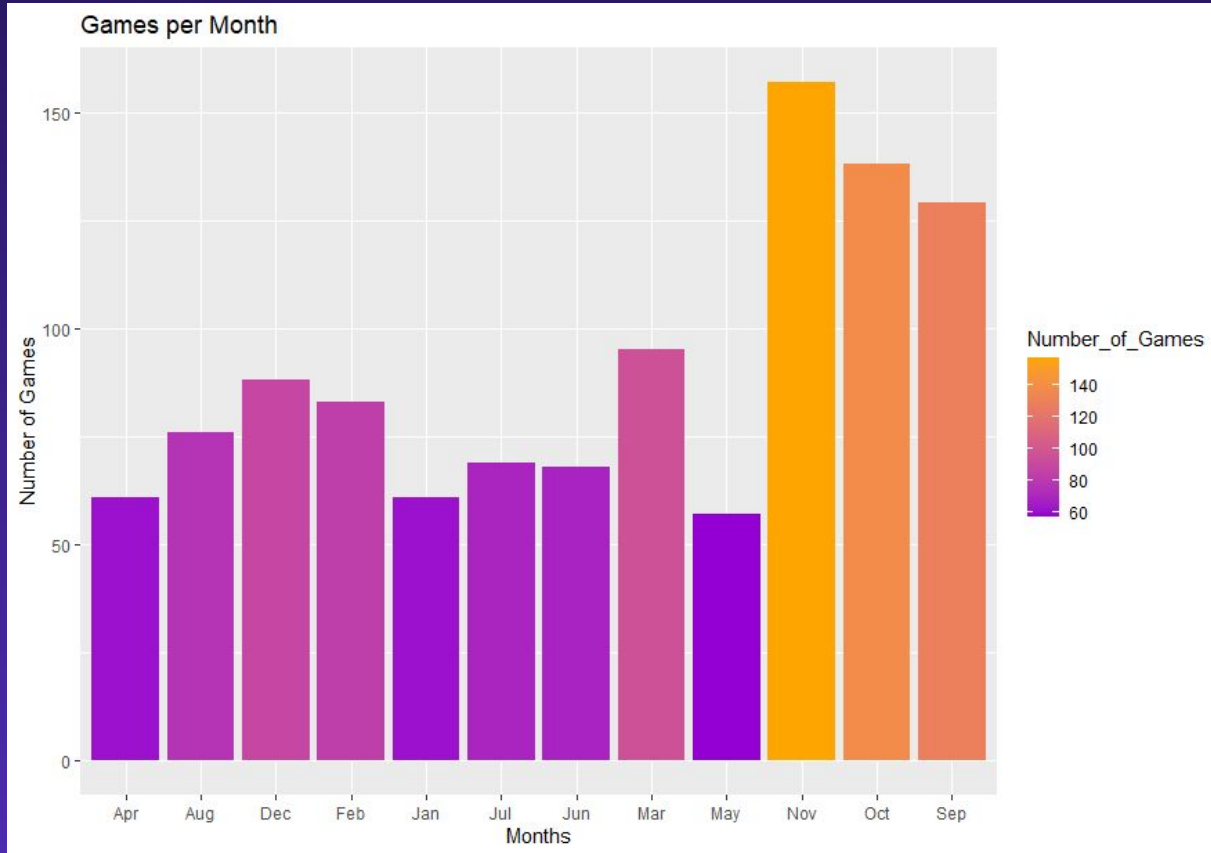
# Ratings per Season



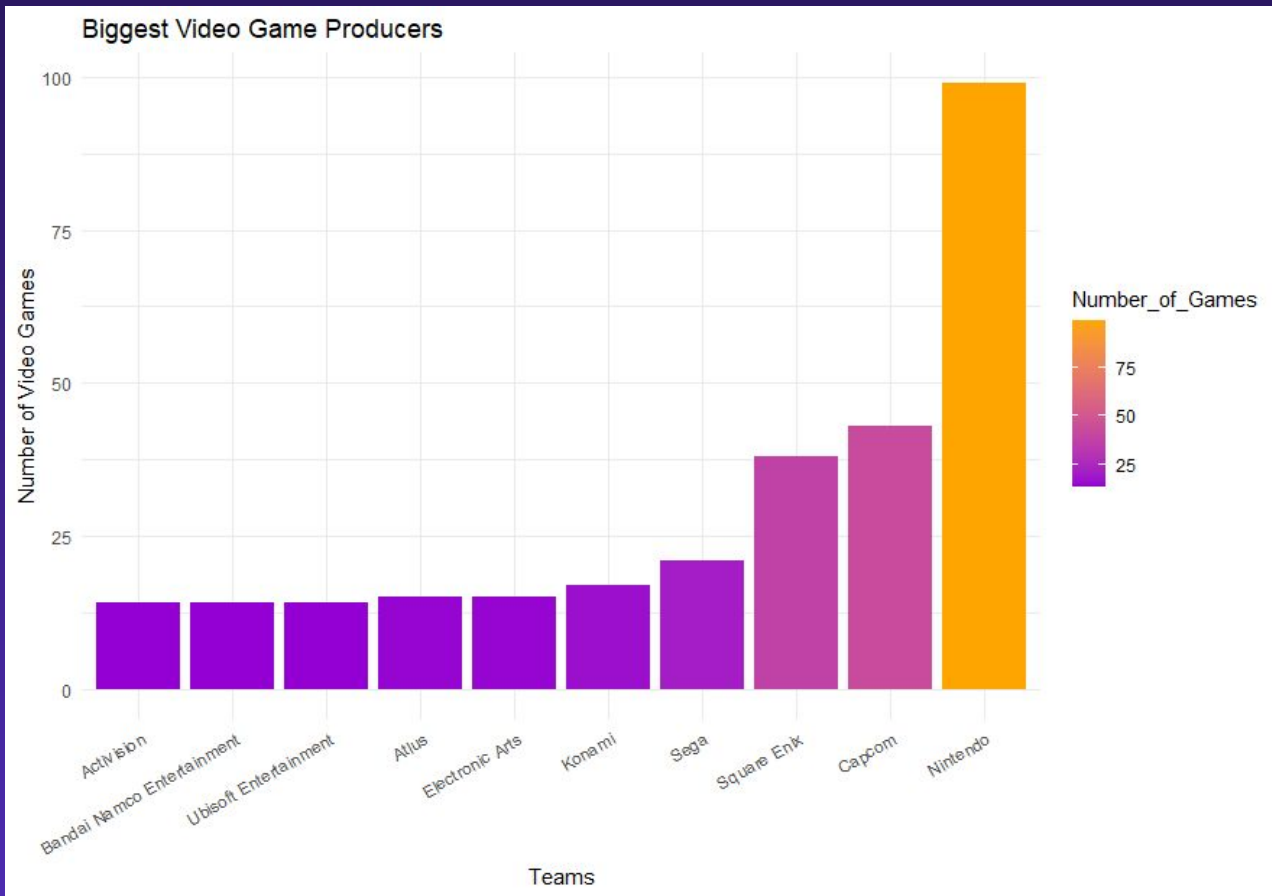
# Games per Genre



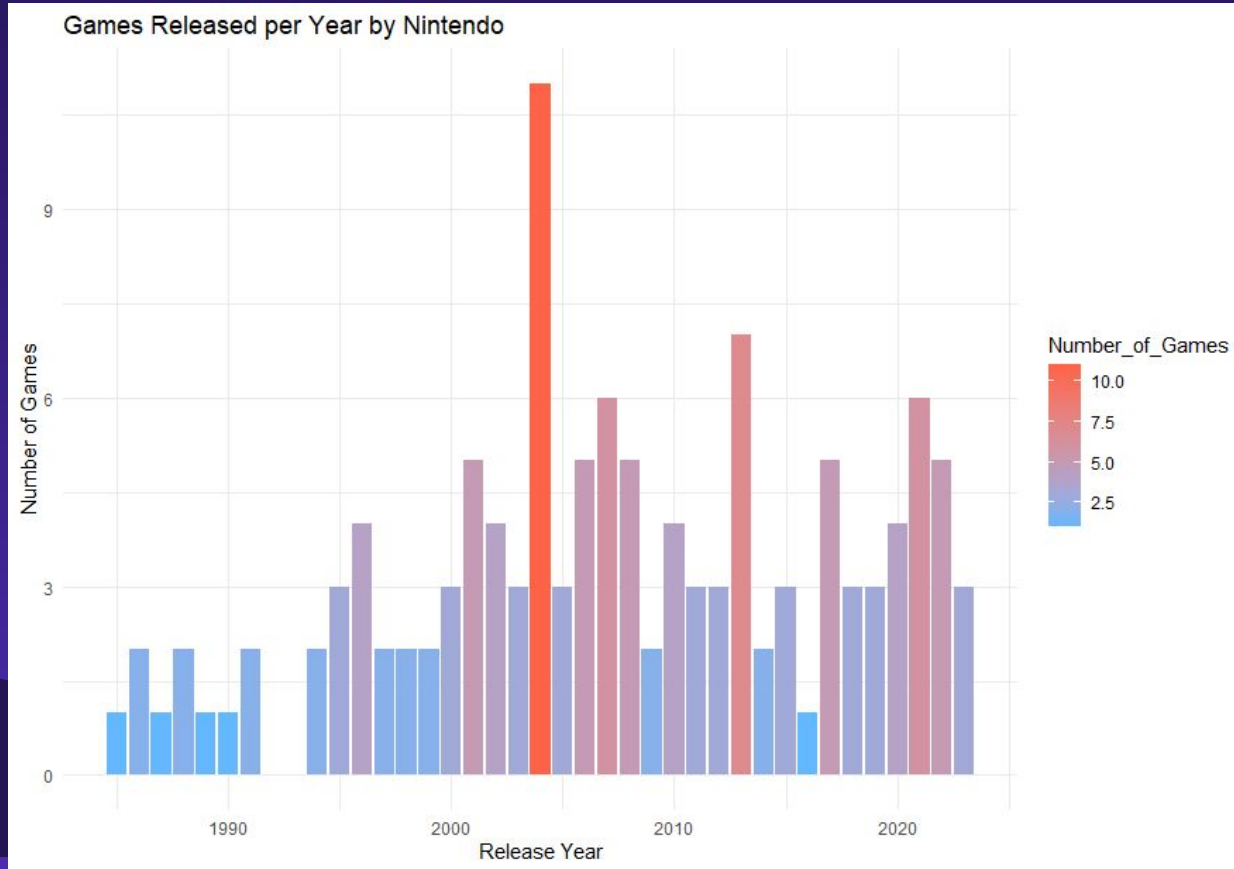
# Games over Time



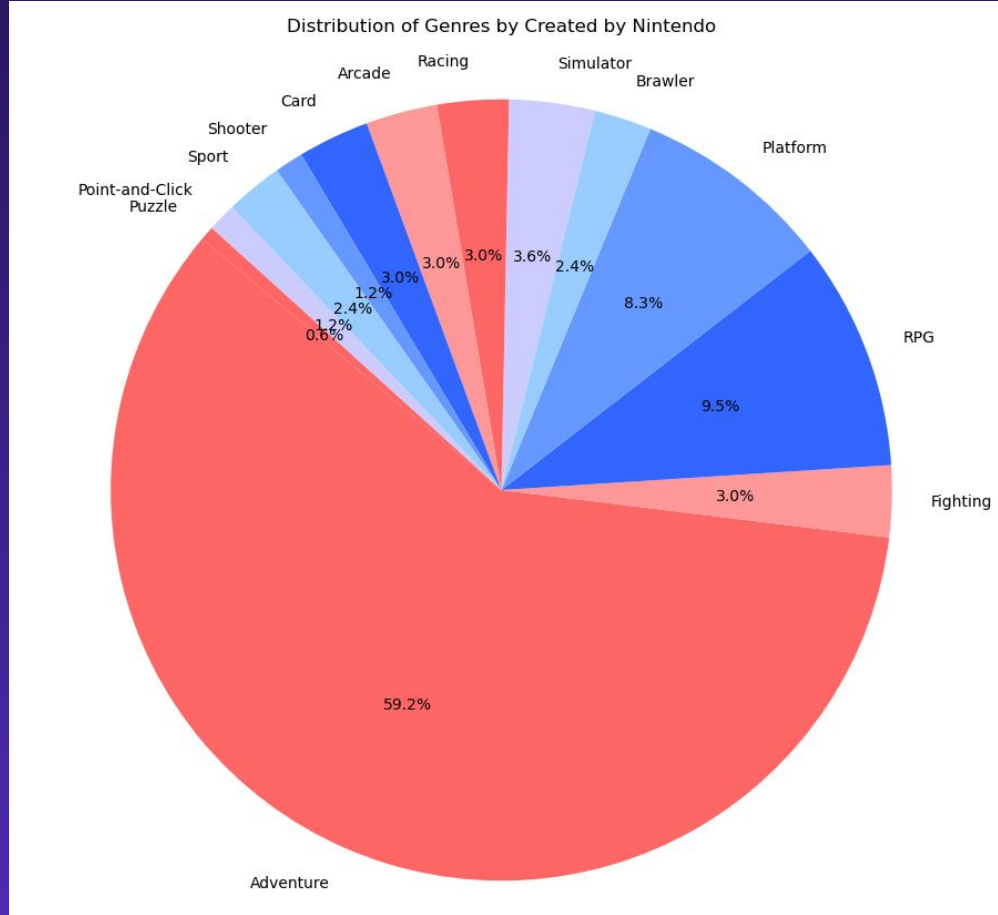
# Top 10 Producer Teams



# Nintendo Games over Time

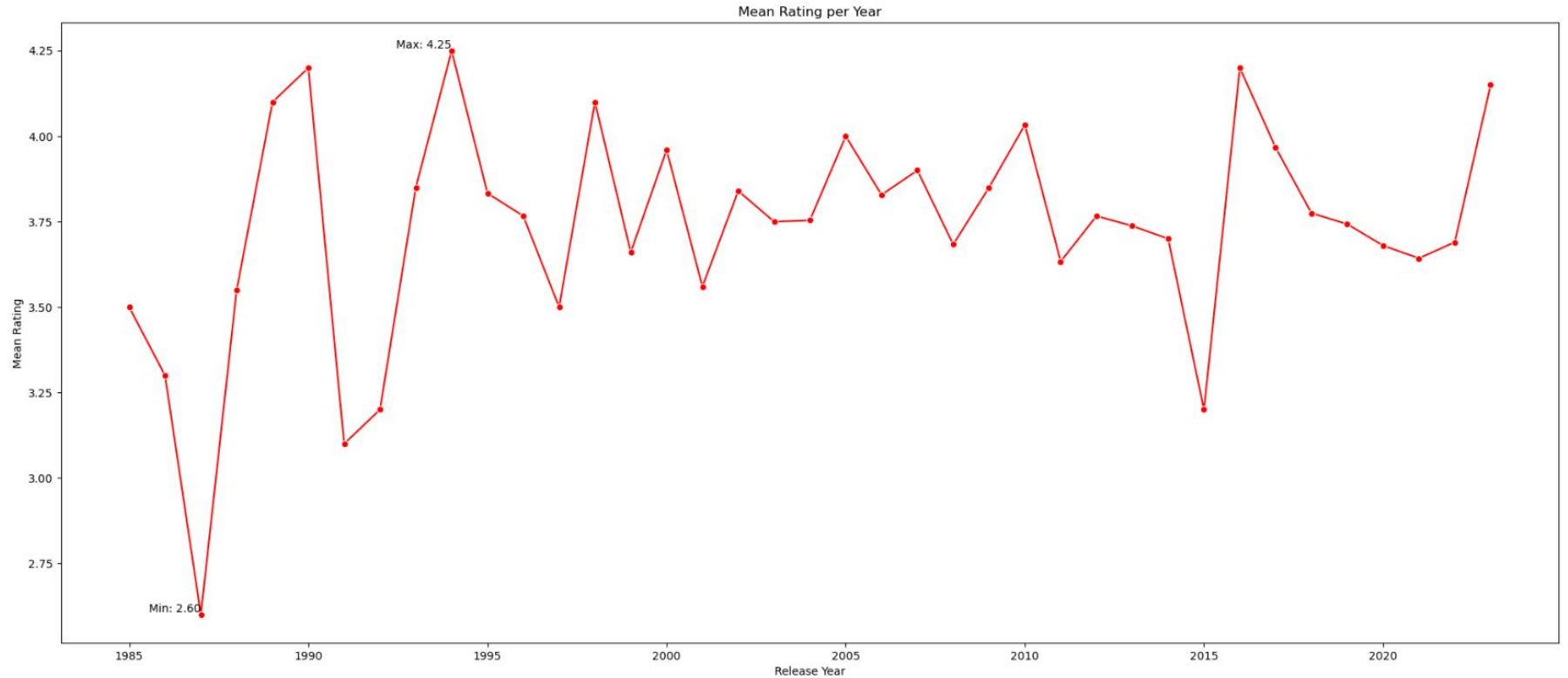


# Nintendo Genres





# Nintendo Games Mean Rating over the Years



# 04

## Findings

Discussion of main results



# Multiple Linear Regression Evaluation

Residuals:

| Min      | 1Q       | Median  | 3Q      | Max     |
|----------|----------|---------|---------|---------|
| -2.14936 | -0.20647 | 0.02294 | 0.24442 | 1.24593 |

Coefficients: (7 not defined because of singularities)

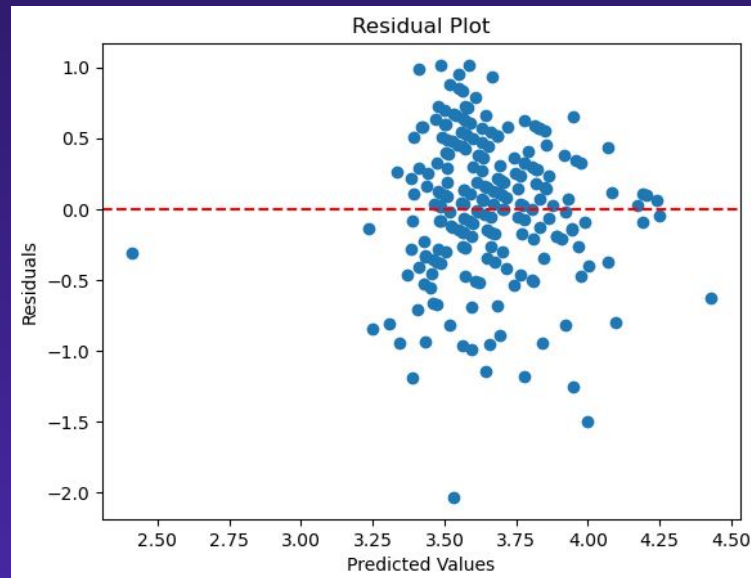
|                   | Estimate | Std. Error | t value | Pr(> t )   |
|-------------------|----------|------------|---------|------------|
| (Intercept)       | 3.25636  | 0.43133    | 7.550   | 1.32e-13** |
| Number.of.Reviews | -1.53705 | 0.20267    | -7.584  | 1.03e-13** |
| Plays             | -0.45280 | 0.24098    | -1.879  | 0.0607 .   |
| Playing           | 0.30736  | 0.22026    | 1.395   | 0.1633     |
| Backlogs          | 0.29017  | 0.23504    | 1.235   | 0.2174     |
| Wishlist          | 2.53207  | 0.33512    | 7.556   | 1.26e-13** |
| Release.Year      | -0.19108 | 0.10198    | -1.874  | 0.0614 .   |
| GenresAdventure   | 0.46886  | 0.42558    | 1.102   | 0.2710     |
| GenresArcade      | 0.47722  | 0.43377    | 1.100   | 0.2716     |
| GenresBrawler     | 0.44139  | 0.44096    | 1.001   | 0.3172     |
| ...               |          |            |         |            |
| Release.MonthJan  | -0.18972 | 0.07854    | -2.416  | 0.0160 *   |
| Release.MonthJul  | -0.04550 | 0.07907    | -0.575  | 0.5651     |
| Release.MonthJun  | -0.07524 | 0.07470    | -1.007  | 0.3142     |

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.4206 on 722 degrees of freedom

Multiple R-squared: 0.3222, Adjusted R-squared: 0.2903

F-statistic: 10.09 on 34 and 722 DF, p-value: < 2.2e-16



# Conclusion

- ❑ **Cleaned**, transformed, added and dropped columns
- ❑ **Plotted (LOW) Correlation** and Pairwise Distributions
- ❑ **Created various exploratory graphs** for data & variable subsets
- ❑ **Tested a Multiple Linear Regression Modeling**
- ❑ **Statistically and graphically evaluated the (bad) performance**



**Thank you  
for you  
Attention!**

